PROPELLER DIMENSIONAL INSPECTION REPORT

TYPE OF INSPECTION: PREREPAIR [ ] FINAL - POST REPAIR [ ] FINAL - NEW MANUFACTURE [ ]

IDENTIFICATION DATA (STAMPED ON HUB/PALM)

SERIAL NO.	SHIP CLASS	STOCK NO.

DRAWING NO.	DRAWING REVISION: ____ HUB/PALM ____ DWG

MFG BY	WEIGHT

MATERIAL	NO. OF BLADES

MONOBLOC [ ] CPP [ ]	RH [ ] LH [ ]

PORT [ ] STBD [ ] INBD [ ] OUTBD [ ] CENTER [ ]

STRESS RELIEF AND/OR MODIFICATION DATA AND DATE *(If any)*

INSPECTION DATA

BLADE GAGE SERIAL NO.	BLADE GAGE STOCK NO.

PLUG GAGE SERIAL NO.	PLUG GAGE STOCK NO.

INSPECTION

PRINTED NAME AND TITLE OF QUALIFIED INSPECTOR	TELEPHONE NUMBER

SIGNATURE OF QUALIFIED INSPECTOR	DATE	INSPECTING ACTIVITY

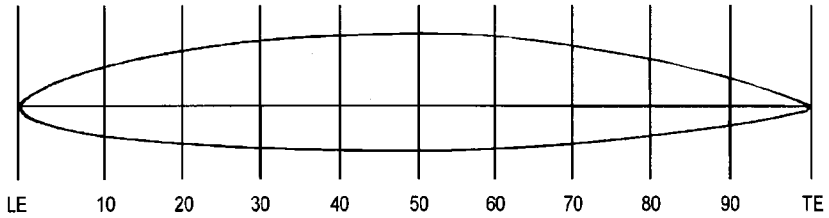
REVIEWED BY (SEE NOTE 3)	DATE

INSTRUCTIONS

1. Propellers are to be inspected and measured in accordance with the applicable propeller drawing and gage drawing. Refer to NAVSEA S9245-AR-TSM-010/PROP for additional information.
2. Fill out forms completely and identify (circle) all out of tolerance measurements.
3. Government verification in contractor facility. Independent reviewer in government facility. Signature must be on all distribution copies.

DISTRIBUTION:
One copy to NSWCCD-SSES 9323
One copy to NAVICP 05824
One copy to Contracting Officer
One copy to file
Other:

CYLINDRICAL SECTION CONTOUR MEASUREMENT



NOTES:
1. INDICATE LOCATION OF GAGE CONTACT POINTS AT EACH CYLINDRICAL SECTION WITH AN *.
2. INDICATE IF RATE OF CHANGE OF CLEARANCES AT EACH CYLINDRICAL SECTION IS SAT OR UNSAT.
3. INDICATE LOCATION OF UNSATISFACTORY RATE OF CHANGE WITH A ▲.
4. CLEARANCES SHALL BE MEASURED AND RECORDED TO 0.001 INCH RESOLUTION.
5. CLEARANCE TOLERANCE IS _____ INCHES.
6. RATE OF CHANGE OF CLEARANCE TOLERANCE IS _____ INCH/INCH.

PRESSURE FACE CYLINDRICAL GAGE CLEARANCE

SECTION RADIUS	OFFSET STATIONS (% WIDTH)									MAX	MAX LOC (% WIDTH)	RATE OF CHANGE	
	10	20	30	40	50	60	70	80	90			SAT	UNSAT
0.3													
0.4													
0.5													
0.6													
0.7													
0.8													
0.9													
0.95													

SUCTION FACE CYLINDRICAL GAGE CLEARANCE

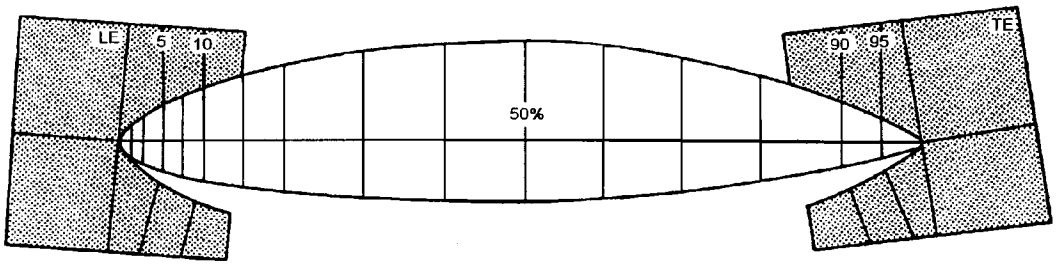
SECTION RADIUS	OFFSET STATIONS (% WIDTH)									MAX	MAX LOC (% WIDTH)	RATE OF CHANGE	
	10	20	30	40	50	60	70	80	90			SAT	UNSAT
0.3													
0.4													
0.5													
0.6													
0.7													
0.8													
0.9													
0.95													

PREPARED BY:_____ DATE:_____

CHECKED BY:_____ BLADE NO.:_____

PROPELLER SERIAL NO.:_____ PAGE ____ OF _____

EDGE CONTOUR MEASUREMENT



NOTES:

1. INDICATE LOCATION OF GAGE CONTACT POINTS AT EACH CYLINDRICAL SECTION WITH AN *.
2. CLEARANCES SHALL BE MEASURED AND RECORDED TO 0.001 INCH RESOLUTION.
3. CLEARANCE TOLERANCE IS _____ INCHES.

PRESSURE FACE EDGE GAGE CLEARANCE

SECTION RADIUS	LEADING EDGE GAGE						TRAILING EDGE GAGE					
	STAND OFF	0%	5%	10%	MAX	MAX LOC (% WIDTH)	90%	95%	100%	STAND OFF	MAX	MAX LOC (% WIDTH)
0.3												
0.4												
0.5												
0.6												
0.7												
0.8												
0.9												
0.95												

SUCTION FACE EDGE GAGE CLEARANCE

SECTION RADIUS	LEADING EDGE GAGE						TRAILING EDGE GAGE					
	STAND OFF	0%	5%	10%	MAX	MAX LOC (%WIDTH)	90%	95%	100%	STAND OFF	MAX	MAX LOC (% WIDTH)
0.3												
0.4												
0.5												
0.6												
0.7												
0.8												
0.9												
0.95												

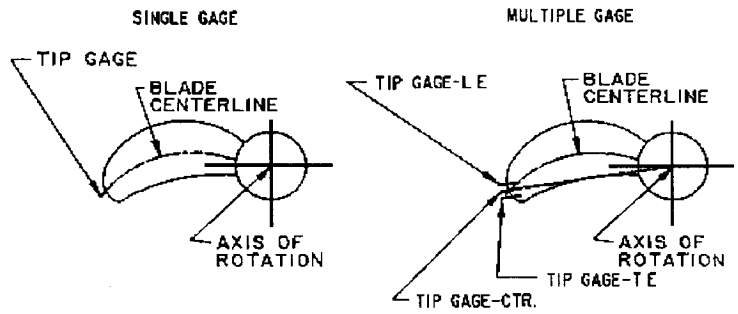
PREPARED BY:_____ DATE:_____

CHECKED BY:_____ BLADE NO.:_____

PROPELLER SERIAL NO.:_____ PAGE ____ OF ____

TIP CONTOUR MEASUREMENT

NOTES:
1. INDICATE LOCATION OF GAGE CONTACT POINTS WITH AN *.
2. CLEARANCE SHALL BE MEASURED AND RECORDED TO 0.001 INCH RESOLUTION.
3. CLEARANCE TOLERANCE IS _____ INCHES.



TIP GAGE CLEARANCE

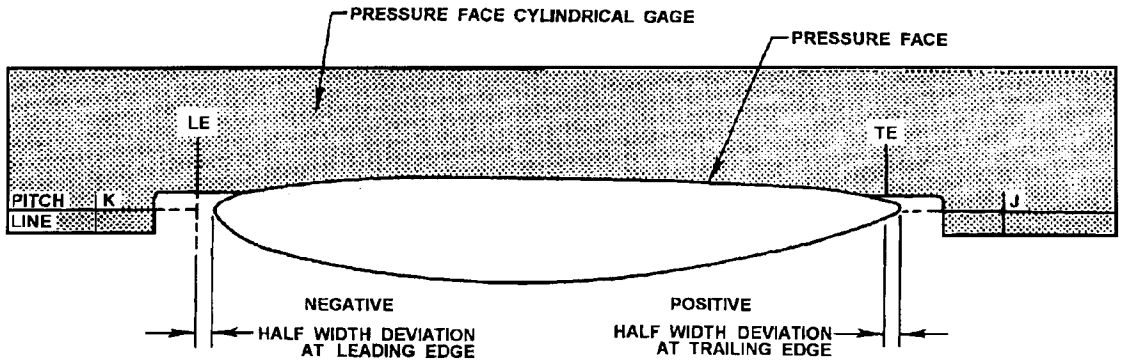
BLADE #	BLADE FACE	LEADING EDGE GAGE						CENTER GAGE						TRAILING EDGE GAGE					
		STAND OFF	TIP	MID GAGE	GAGE OPEN	MAX	MAX LOC (% RADIUS)	STAND OFF	TIP	MID GAGE	GAGE OPEN	MAX	MAX LOC (% RADIUS)	STAND OFF	TIP	MID GAGE	GAGE OPEN	MAX	MAX LOC (% RADIUS)
1	P																		
	S																		
2	P																		
	S																		
3	P																		
	S																		
4	P																		
	S																		
5	P																		
	S																		
6	P																		
	S																		
7	P																		
	S																		

PREPARED BY:_____ DATE:_____

CHECKED BY:_____

PROPELLER SERIAL NO.:_____ PAGE _____ OF _____

BLADE WIDTH DEVIATION MEASUREMENT



NOTES:

1. MEASURE AND RECORD BLADE HALF WIDTH DEVIATIONS TO 0.01 INCH RESOLUTION.
2. * INDICATES TOLERANCE FOR NEW MANUFACTURE ONLY.

SECTION RADIUS	LE HALF WIDTH DEVIATION		TE HALF WIDTH DEVIATION		TOTAL WIDTH DEVIATION	TOLERANCE		
	MEAS	DIFF BETWEEN SECTIONS	MEAS	DIFF BETWEEN SECTIONS	MEAS (LE + TE)	* HALF WIDTH	* BETWEEN SECTIONS	TOTAL
0.3								
0.4								
0.5								
0.6								
0.7								
0.8								
0.9								
0.95								

PREPARED BY:_____ DATE:_____

CHECKED BY:_____ BLADE NO.:_____

PROPELLER SERIAL NO.:_____ PAGE _____ OF _____

THICKNESS MEASUREMENT

RADIUS		OFFSET STATION (% WIDTH)									TOL.
		10	20	30	40	50	60	70	80	90	
0.3	MEAS.										
	DES.										
	DEV.										
0.4	MEAS.										
	DES.										
	DEV.										
0.5	MEAS.										
	DES.										
	DEV.										
0.6	MEAS.										
	DES.										
	DEV.										
0.7	MEAS.										
	DES.										
	DEV.										
0.8	MEAS.										
	DES.										
	DEV.										
0.9	MEAS.										
	DES.										
	DEV.										
0.95	MEAS.										
	DES.										
	DEV.										

NOTE:

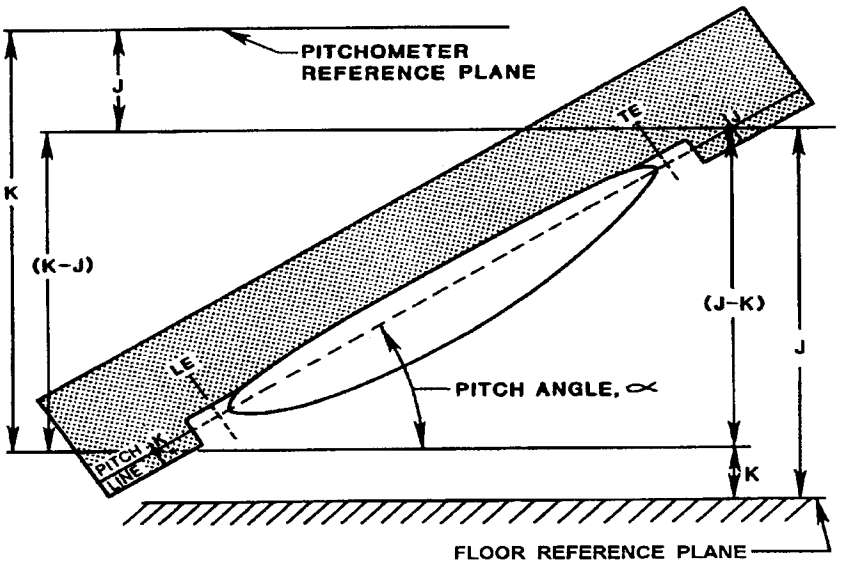
1. THICKNESS SHALL BE MEASURED AND RECORDED TO 0.001 INCH RESOLUTION.

PREPARED BY:_____ DATE:_____

CHECKED BY:_____ BLADE NO.:_____

PROPELLER SERIAL NO.:_____ PAGE _____ OF _____

PITCH MEASUREMENT



NOTES:

1. SECTION % PITCH DEVIATION TOLERANCE IS _____.
2. BLADE AVERAGE % PITCH DEVIATION TOLERANCE IS _____.
3. ADJACENT SECTION PITCH TOLERANCE IS _____.
4. THIS VALUE IS ALSO USED TO CALCULATE SKEW.
5. THESE VALUES CAN BE OBTAINED FROM THE GAGE DRAWING.
6. PITCH SHALL BE MEASURED AND RECORDED TO 0.001 INCH RESOLUTION.

SECTION RADIUS	MEASURED			DESIGN S (SEE NOTE 5)	DESIGN ΔS (SEE NOTE 5)	% PITCH DEVIATION $\frac{S_{MEAS} - S_{DESIGN}}{\Delta S_{DESIGN}}$	VARIATION BETWEEN ADJACENT SECTIONS
	J	K	$S_{MEAS}=\|K - J\|$ (SEE NOTE 4)				
0.3							
0.4							
0.5							
0.6							
0.7							
0.8							
0.9							
0.95							
					AVERAGE		

PREPARED BY:_____ DATE:_____

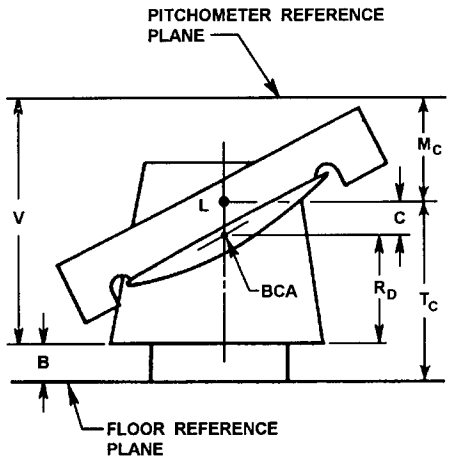
CHECKED BY:_____ BLADE NO.:_____

PROPELLER SERIAL NO.:_____ PAGE _____ OF _____

RAKE MEASUREMENT

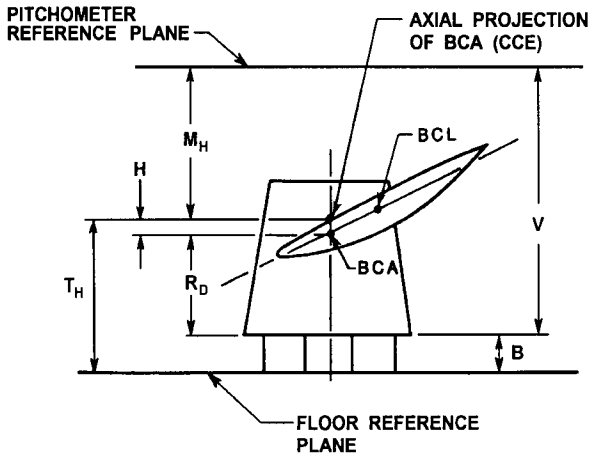
INSTRUCTIONS:

1. IDENTIFY REFERENCE PLANE USED; [ ] PITCHOMETER [ ] FLOOR REFERENCE PLANE.
2. DISTANCE FROM THE REFERENCE PLANE TO FORWARD FACE OF PROPELLER HUB (V or B) _____.
3. CHOOSE THE APPROPRIATE SKETCH AND RECORD RADII USED FOR THE SKETCH.
4. RECORD FORMULA USED FOR CALCULATING R_D FROM NAVSEA S9245-AR-TSM-010/PROP.
5. DISTANCE FROM FWD FACE OF HUB TO PCA _____.



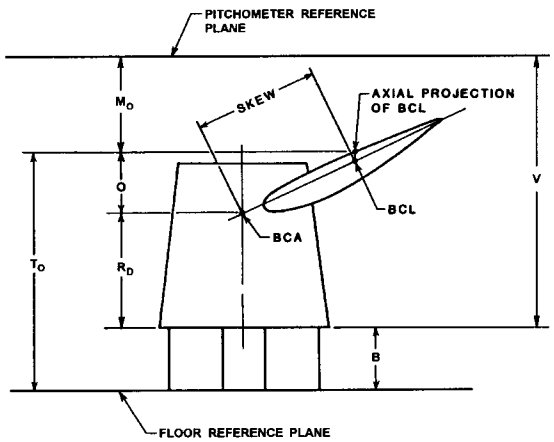
RADII FROM _____R_ TO _____R

FORMULA USED (SEE NOTE 4) _____



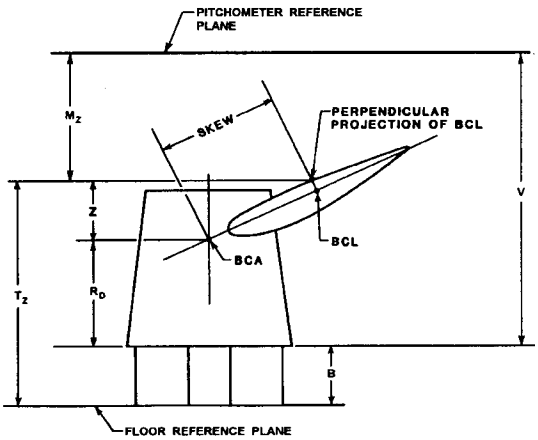
RADII FROM _____R_ TO _____R

FORMULA USED (SEE NOTE 4) _____



RADII FROM _____R_ TO _____R

FORMULA USED (SEE NOTE 4) _____



RADII FROM _____R_ TO _____R

FORMULA USED (SEE NOTE 4) _____

PREPARED BY: _____ DATE: _____

CHECKED BY: _____

PROPELLER SERIAL NO.:_____ PAGE _____ OF _____

RAKE MEASUREMENT

INSTRUCTIONS:

1. FOR NEW MANUFACTURE PROPELLERS, COMPLETE ALL CALCULATIONS.
2. FOR REPAIR PROPELLERS, RECORD THE MEASURED VALUE FOR ALL RADII.
3. UTILIZE SKETCHES AND FORMULAS FROM NAVSEA S9245-AR-TSM-010/PROP.
4. THIS TABLE PROVIDES CALCULATED RAKE VALUES USED FOR NEW MANUFACTURE TRACK CALCULATIONS.
5. RAKE SHALL BE MEASURED AND RECORDED TO 0.001 INCH RESOLUTION.

RADIUS	RADIUS INCHES (x)	$(RADIUS)^2$ (x^2)	MEASURED VALUE (T) (M)	DIST FROM MEAS POINT TO BCA (C) (H) (O) (Z)	R_D	$RAKE_{(ACT)}$	$RAKE_{(DESIGN)}$	$RAKE_{(ACT)} - RAKE_{(DESIGN)}$ (y)	(xy)
0.3									
0.4									
0.5									
0.6									
0.7									
0.8									
0.9									
0.95									
Σx =		$=\Sigma x^2$					Σy=		$=\Sigma xy$
$(\Sigma x)^2$ =									

$$a = \frac{n\Sigma xy - (\Sigma x)(\Sigma y)}{n\Sigma x^2 - (\Sigma x)^2} \qquad b = \frac{(\Sigma y)(\Sigma x^2) - (\Sigma xy)(\Sigma x)}{n\Sigma x^2 - (\Sigma x)^2}$$

WHERE n IS THE NUMBER OF RADII USED FOR CALCULATION (USUALLY 8).

a =

b =

RAKE

SECTION RADIUS	DEVIATION (y)	CALCULATED DEVIATION (ax+b)	BCA DEVIATION (y - (ax+b))	DIFFERENCE BETWEEN SECTIONS	TOLERANCE	
					BCA DEVIATION	BETWEEN SECTIONS
0.3						
0.4						
0.5						
0.6						
0.7						
0.8						
0.9						
0.95						

RAKE (SEE NOTE 4)

SECTION RADIUS	CALCULATED DEVIATION (ax + b)	TOLERANCE
0		
0.95		

PREPARED BY: _____ DATE: _____

CHECKED BY: _____ BLADE NO.: _____

PROPELLER SERIAL NO.: _____ PAGE _____ OF _____

TRACK MEASUREMENT

RAKE MEASUREMENT DATA		
BLADE NUMBER	CALCULATED DEVIATION AT PROPELLER CENTER LINE (AXIS OF ROTATION) (SEE NOTES 1 AND 2)	CALCULATED DEVIATION OR MEASURED VALUE AT 0.95 RADIUS (SEE NOTE 3)
1		
2		
3		
4		
5		
6		
7		

TRACK		
	PROPELLER CENTER LINE (SEE NOTE 1)	0.95 RADIUS
MAXIMUM VALUE (FROM TABLE ABOVE)		
MINIMUM VALUE (FROM TABLE ABOVE)		
TRACK (MAX - MIN)		
TOLERANCE		

NOTES:

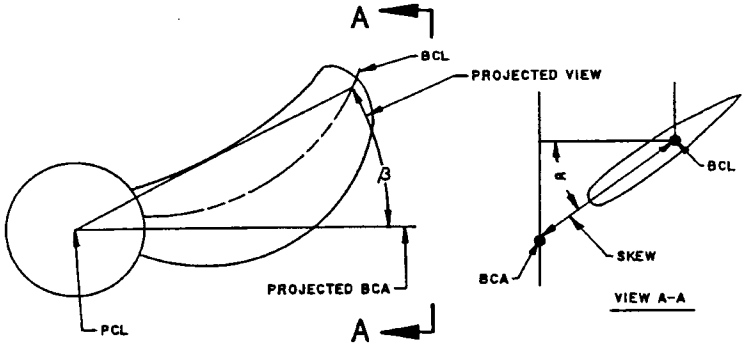
1. FOR NEW MANUFACTURE ONLY.
2. ACQUIRE DATA FROM RAKE MEASUREMENT SHEET. USE CALCULATED DEVIATION VALUE.
3. ACQUIRE DATA FROM RAKE MEASUREMENT SHEET. FOR NEW MANUFACTURE, USE CALCULATED DEVIATION VALUE. FOR REPAIR, USE MEASURED VALUE.

PREPARED BY:_____ DATE:_____

CHECKED BY:_____

PROPELLER SERIAL NO.:_____ PAGE _____ OF _____

SKEW MEASUREMENT



NOTES:

1. THIS SKETCH SHOWS SKEW MEASUREMENT USING THE BETA (B) ANGLE DIMENSION. THE BETA ANGLE IS MEASURED FROM THE AXIAL PROJECTION OF THE BCA TO THE PERPENDICULAR PROJECTION OF THE BCL. SEE NAVSEA S9245-AR-TSM-010/PROP FOR ADDITIONAL INFORMATION.
2. THE PITCH AND BETA ANGLE CALCULATIONS ARE IN DEGREES.
3. BETA ANGLE CAN BE MEASURED DIRECTLY OR CALCULATED FROM A CHORD MEASUREMENT.
4. ACQUIRE $S_{meas.}$ FROM THE PITCH MEASUREMENT FORM AND "A" AND "B" FROM THE PROPELLER GAGE DATA DRAWING.
5. MEASURE AND RECORD THE BETA ANGLE TO 1 MINUTE RESOLUTION.
6. MEASURED PITCH ANGLE = $\alpha_M = \sin^{-1}\left(\frac{S_{meas}}{(A + B)}\right)$
7. SKEW IS CALCULATED USING THE FOLLOWING FORMULA:

$$SKEW = \frac{r\pi\beta}{180\cos\alpha_M} + (LO)\tan\alpha_M$$

WHERE; LO = LOWER OFFSET AT THE 50% OFFSET STATION
r = RADIUS OF APPLICABLE CYLINDRICAL SECTION
β = BETA ANGLE MEASURED FROM THE AXIAL PROJECTION OF THE BCA TO THE PERPENDICULAR PROJECTION OF THE BCL

8. IF THE BETA ANGLE (β) CAN NOT BE MEASURED DIRECTLY IT CAN BE CALCULATED USING THE FOLLOWING FORMULA:

$$\beta = 2\sin^{-1}\left(\frac{Chord}{2r}\right)$$

SECTION RADIUS	(SEE NOTE 4)			MEAS. PITCH ANGLE (α_M)	MEAS. BETA ANGLE (β)	SKEW (INCHES)					
	$S_{meas.}$	A	B			CALCULATED (ACTUAL)	DESIGN	DEVIATION (CALC-DESIGN)	DIFFERENCE BETWEEN SECTIONS	TOLERANCE	
										DEVIATION	BETWEEN SECTIONS
0.3											
0.4											
0.5											
0.6											
0.7											
0.8											
0.9											
0.95											

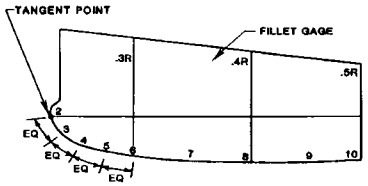
PREPARED BY:_____ DATE:_____

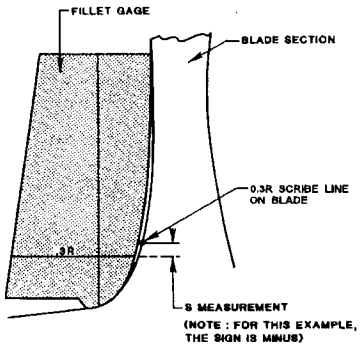
CHECKED BY:_____ BLADE NO.:_____

PROPELLER SERIAL NO.:_____ PAGE _____ OF _____

HUB AND FILLET CONTOUR MEASUREMENT

NOTES:
1. FOR A NORMAL FILLET GAGE, THE INSPECTION STATIONS SHALL BE AS SHOWN ON THE ADJACENT SKETCH. STATION 1 (NOT SHOWN) IS ON THE HUB GAGE.
2. FOR A RADIAL FILLET GAGE, THE INSPECTION STATIONS SHALL BE TEN EQUALLY SPACED LOCATIONS. STATION 1 IS THE FIRST STATION AT THE HUB AND STATION 10 IS THE LAST STATION TOWARD .5R.
3. INDICATE LOCATION OF GAGE CONTACT WITH AN *.
4. INDICATE IF RATE OF CHANGE OF CLEARANCES AT EACH GAGE IS SAT/UNSAT.
5. INDICATE LOCATION OF UNSATISFACTORY RATE OF CHANGE WITH A ▲.
6. RATE OF CHANGE CLEARANCE TOLERANCE IS _____ INCH/INCH.
7. CLEARANCE SHALL BE MEASURED AND RECORDED TO 0.001 INCH RESOLUTION.
8. GAGE RADIAL DISPLACEMENT ("S" MEASUREMENT) SHALL BE MEASURED AND RECORDED TO 0.01 INCH RESOLUTION.





TYPE OF GAGE	
NORMAL	
RADIAL	

HUB AND FILLET GAGE CLEARANCE

STATIONS	GAGE-A		GAGE-B		GAGE-C		GAGE-D		GAGE-E		GAGE-F		GAGE-G		TOL.
	PF	SF	PF	SF	PF	SF	PF	SF	PF	SF	PF	SF	PF	SF	
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
MAX															
MAX LOC															
RATE OF CHANGE SAT															
RATE OF CHANGE UNSAT															

FILLET GAGE LOCATION

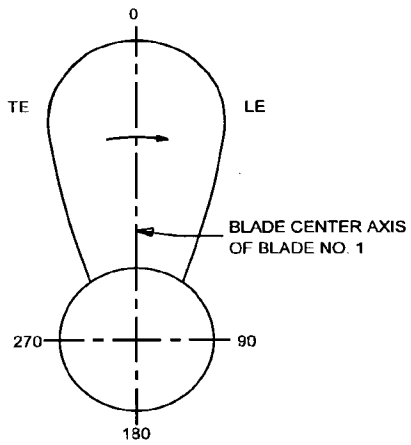
"S"															

PREPARED BY:_____ DATE:_____

CHECKED BY:_____ BLADE NO.:_____

PROPELLER SERIAL NO.:_____ PAGE _____ OF _____

PROPELLER UNBALANCE



NOTES:

1. THE MANDREL RUNOUT TOLERANCE SHALL BE CALCULATED USING THE FOLLOWING FORMULA OR 0.001" WHICHEVER IS GREATER.

TOLERANCE = $U_T/((73)(W))$

2. THE DIFFERENCE BETWEEN UNBALANCE RUNS TOLERANCE SHALL BE CALCULATED USING THE FOLLOWING FORMULA.

TOLERANCE = $0.1(U_T)$

DRAWING BALANCE TOLERANCE (OZ-IN)	PROPELLER WEIGHT (LBS)
U_T=	W=

MANDREL UNBALANCE (OZ-IN)		MANDREL RUNOUT (TIR)	
MEASURED	TOLERANCE ($0.03U_T$)	MEASURED	TOLERANCE (SEE NOTE 1)
U_M=		TIR_M=	

UNBALANCE				DIFFERENCE BETWEEN UNBALANCE RUNS	
UNBALANCE RUNS	MEASURED ANGLE OF UNBALANCE (RELATIVE TO BLADE NO. 1)	MEASURED UNBALANCE (OZ - IN)	TOLERANCE ($0.75U_T$)	MEASURED ($\lvert U_1-U_2 \rvert$)	TOLERANCE (SEE NOTE 2)
RUN #1		U_1=			
RUN #2		U_2=			

SENSITIVITY RUN			
SENSITIVITY WEIGHT (OZ.)	LOCATION OF WEIGHT (e.g.; TIP OF BLADE 5)	MEASURED ANGLE OF UNBALANCE (RELATIVE TO BLADE NO. 1)	MEASURED UNBALANCE (OZ-IN)

PREPARED BY:_____ DATE:_____

CHECKED BY:_____

PROPELLER SERIAL NO.:_____ PAGE _____ OF _____

NOTE:
1. PROPELLER RADIUS SHALL BE MEASURED AND RECORDED TO 0.01 INCH RESOLUTION.

PROPELLER RADIUS				
BLADE NO.	RADIUS			
	MEASURED	DESIGN	DEVIATION (MEAS - DES)	TOLERANCE
1				
2				
3				
4				
5				
6				
7				

NOTE:
1. ANGULAR SPACING OF BLADE CENTER AXIS SHALL BE MEASURED AND RECORDED TO 1 MINUTE RESOLUTION.

ANGULAR SPACING OF BLADE CENTER AXIS				
BLADE NO.	ANGLE BETWEEN BLADES			
	MEASURED	DESIGN	DEVIATION (MEAS - DES)	TOLERANCE
1 & 2				
2 & 3				
3 & ___				
4 & ___				
5 & ___				
6 & ___				
7 & 1				

PREPARED BY:_____ DATE:_____

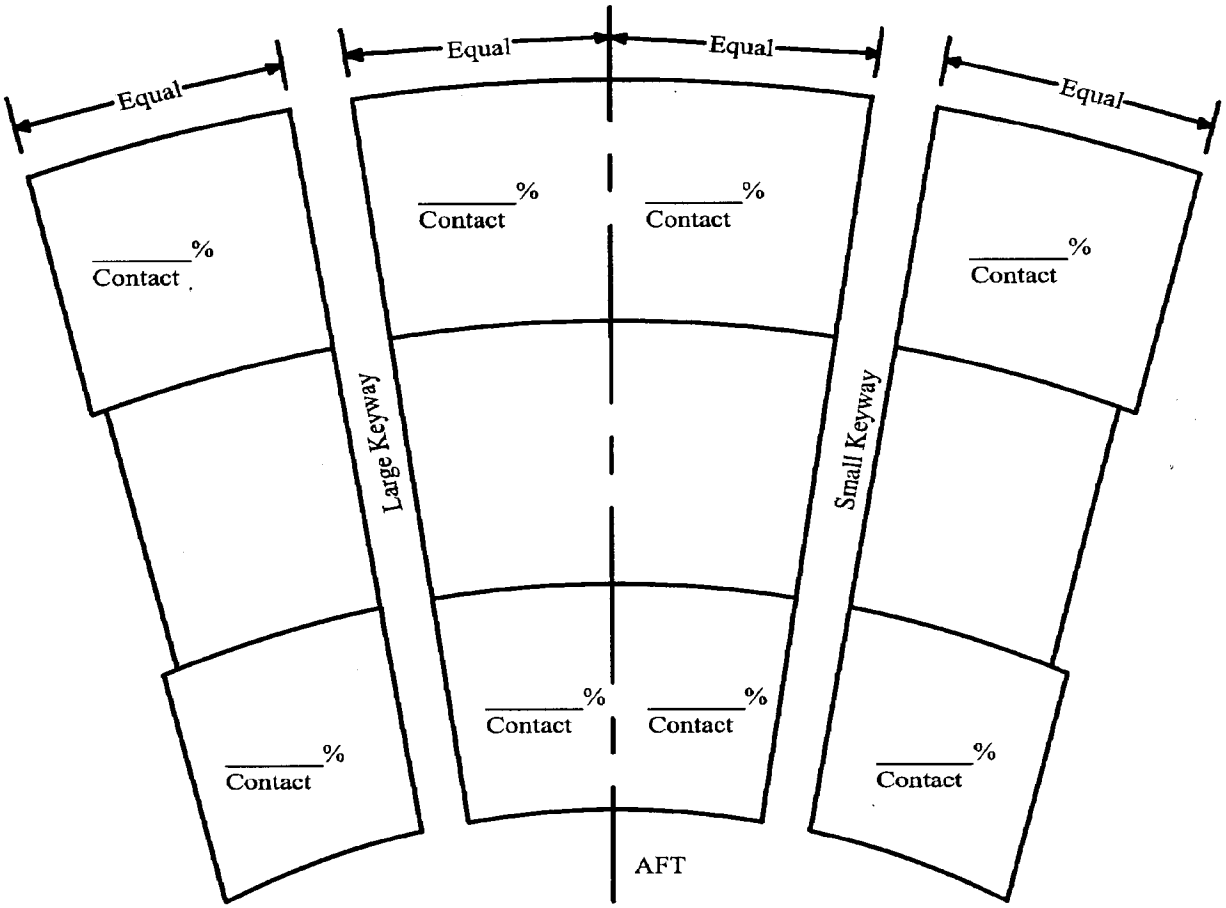
CHECKED BY:_____

PROPELLER SERIAL NO.:_____ PAGE _____ OF _____

HUB BORE CONTACT

NOTE:

1. RECORD THE CONTACT IMPRESSION (%) FOR EACH FORWARD AND AFT QUADRANT IN THE SKETCH ABOVE.



HUB BORE CONTACT		
PERCENT CONTACT	MEASURED	REQUIRED
TOTAL AVERAGE		
UNIFORM DISTRIBUTION		
PERCENT CONTACT	MEASURED	REQUIRED (MEAS. AVG - 15%)
LOWEST READING		

PREPARED BY:_____ DATE:_____

CHECKED BY:_____

PROPELLER SERIAL NO.:_____ PAGE _____ OF _____

HUB BORE MEASUREMENT

NOTE:
1. PROPELLER ADVANCE COEFFICIENTS ARE FOR A ONE INCH PER FOOT NI-AL-BRZ TAPER. FOR OTHER NI-AL-BRZ TAPERS DIVIDE THE COEFFICIENT BY THE AMOUNT OF TAPER (IN INCHES) PER FOOT.

	DESIGN	MEASURED	DEVIATION (MEAS - DES)	TOLERANCE
LENGTH OF HUB				

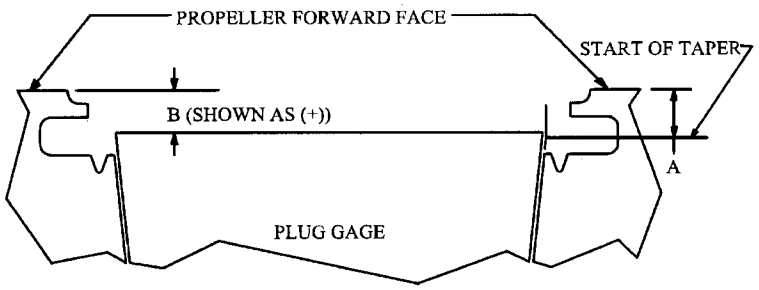
PROPELLER ADVANCE COEFFICIENTS (SEE NOTE 1)		
AMBIENT TEMPERATURE		K
(C)	(F)	
-6.7	20	0.00756
-1.1	30	0.00723
4.4	40	0.00691
10	50	0.00658
15.6	60	0.00625
21.1	70	0.00593
26.7	80	0.00561
32.2	90	0.00527

AMBIENT TEMP =	

SHAFT DIA =	

PROPELLER ADVANCE = K * DIA (in)

RECORD PLUG GAGE LABEL PLATE DATA EXACTLY AS STAMPED	



DEPTH OF INSERTION CALCULATION

		WITHOUT KEYS	WITH KEYS
A	DISTANCE FROM THE FORWARD FACE OF HUB TO THE START OF THE SHAFT TAPER (TAKEN FROM PROPELLER DRAWING)		
B	MEASURED DEPTH OF INSERTION. DISTANCE FROM THE FORWARD FACE OF GAGE TO FORWARD FACE OF HUB. (RECORD AS (-), IF GAGE EXTENDS BEYOND HUB.)		
C	PROPELLER ADVANCE (CALCULATED ABOVE)		
D	ACTUAL DISTANCE BETWEEN THE FORWARD FACE OF THE GAGE AND THE START OF THE SHAFT TAPER (CALCULATED = A - B - C)		
E	DISTANCE FROM THE FORWARD FACE OF THE GAGE TO THE START OF THE SHAFT TAPER AS SHOWN ON THE LABEL PLATE. (IF THE LABEL PLATE TOLERANCE IS (-), RECORD AS (-).)		
F	DEVIATION (CALCULATED = D - E)		
	TOLERANCE		

PREPARED BY:_____ DATE:_____

CHECKED BY:_____

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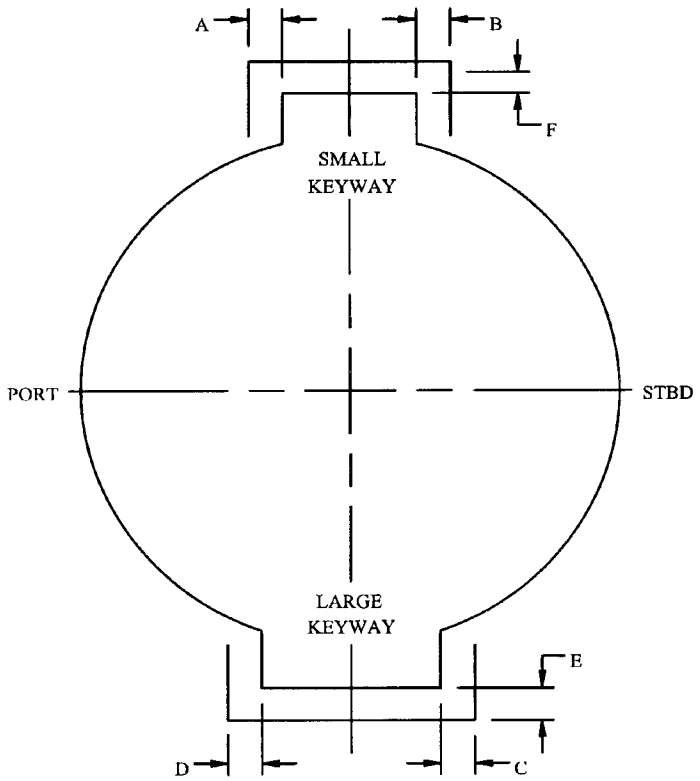
KEYWAY CLEARANCES

NOTES:

1. MEASURE KEYWAY CLEARANCES AT LEAST 9 INCHES INTO THE PROPELLER BORE.
2. KEYWAY CLEARANCE SHALL BE MEASURED AND RECORDED TO 0.001 INCH RESOLUTION.



LOCATION		FORWARD END	AFT END	TOLERANCE
SIDE	A			
	B			
	SMALL KEYWAY TOTAL (A+B)			
	C			
	D			
	LARGE KEYWAY TOTAL (C+D)			
TOP	E			
	F			

PREPARED BY:_____ DATE:_____

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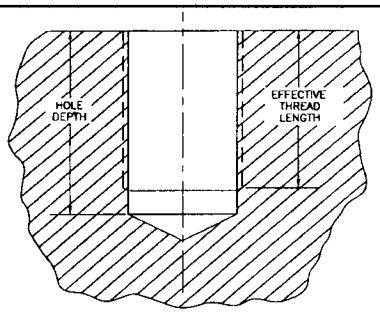
THREADED HOLE INSPECTION

NOTES:
1. STUD HOLES SHALL BE NUMBERED CLOCKWISE FROM THE SMALL KEYWAY LOOKING AT THE FORWARD FACE.
2. HOLE DEPTHS SHALL BE MEASURED AND RECORDED TO 0.01 INCH RESOLUTION. DEGREES SHALL BE MEASURED AND RECORDED TO 1 MINUTE RESOLUTION.
3. HOLE LOCATION INSPECTIONS ARE REQUIRED FOR NEW MANUFACTURE ONLY.



GLAND STUD HOLES

HOLE (SEE NOTE 1)	ATTRIBUTE							
	HOLE DEPTH	THREAD DEPTH	DEGREES FROM SMALL KEYWAY (SEE NOTE 3)		GO GAGE SIZE		NO-GO GAGE SIZE	
			MEASURED	DESIGN	SAT	UNSAT	SAT	UNSAT
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
DESIGN			TOLERANCE				MIN	MAX
TOLERANCE			STUD HOLE CIRCLE DIAMETER (SEE NOTE 3)					
			DESIGN CIRCLE DIAMETER					
			CIRCLE DIAMETER TOLERANCE					

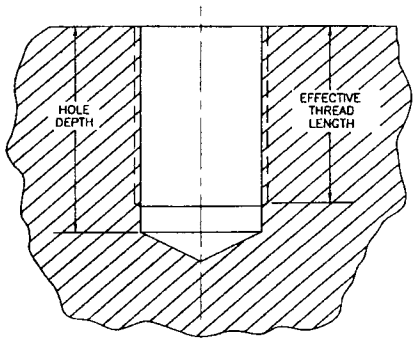
PREPARED BY:_____ DATE:_____

CHECKED BY:_____

PROPELLER SERIAL NO.:_____ PAGE _____ OF _____

THREADED HOLE INSPECTION

NOTES:
1. STUD HOLES SHALL BE NUMBERED CLOCKWISE FROM THE SMALL KEYWAY LOOKING AT THE AFT FACE.
2. HOLE DEPTHS SHALL BE MEASURED AND RECORDED TO 0.01 INCH RESOLUTION. DEGREES SHALL BE MEASURED AND RECORDED TO 1 MINUTE RESOLUTION.
3. HOLE LOCATION INSPECTIONS ARE REQUIRED FOR NEW MANUFACTURE ONLY.



PROPELLER CAP STUD HOLES

HOLE (SEE NOTE 1)	ATTRIBUTE							
	HOLE DEPTH	THREAD DEPTH	DEGREES FROM SMALL KEYWAY (SEE NOTE 3)		GO GAGE SIZE		NO-GO GAGE SIZE	
			MEASURED	DESIGN	SAT	UNSAT	SAT	UNSAT
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
DESIGN			TOLERANCE				MIN	MAX
TOLERANCE			STUD HOLE CIRCLE DIAMETER (SEE NOTE 3)					
			DESIGN CIRCLE DIAMETER					
			CIRCLE DIAMETER TOLERANCE					

PREPARED BY:_____ DATE:_____

CHECKED BY:_____

PROPELLER SERIAL NO.:_____ PAGE _____ OF _____

THREADED HOLE INSPECTION

NOTES:
1. FILL AND VENT HOLES SHALL BE NUMBERED WITH THE #1 HOLE OVER THE SMALL KEYWAY.
2. EYEBOLT HOLES SHALL BE NUMBERED CLOCKWISE FROM THE SMALL KEYWAY LOOKING AT THE APPLICABLE FACE. IF THERE IS MORE THAN ONE SIDE EYEBOLT HOLE, THE #1 HOLE SHALL BE THE FORWARD HOLE.
3. HOLE DEPTHS SHALL BE MEASURED AND RECORDED TO 0.01 INCH RESOLUTION. DEGREES SHALL BE MEASURED AND RECORDED TO 1 MINUTE RESOLUTION.
4. HOLE LOCATION INSPECTIONS ARE REQUIRED FOR NEW MANUFACTURE ONLY.

FILL AND VENT HOLES

HOLE (SEE NOTE 1)	ATTRIBUTE						
	DEGREES TO KEYWAY CENTERLINE (SEE NOTE 4)	THRU HOLE DIAMETER (SEE NOTE 4)	DISTANCE FROM HUB FACE (SEE NOTE 4)			THREAD GAGE SIZE	
	MEASURED	MEASURED	MEASURED	DESIGN	TOLERANCE	SAT	UNSAT
AFT #1							
AFT #2							
FWD #1							
FWD #2							
DESIGN							
TOLERANCE							

HUB FACE EYEBOLT HOLES

HOLE (SEE NOTE 2)	ATTRIBUTE									
	HOLE DEPTH	THREAD DEPTH	DEGREES FROM SMALL KEYWAY (SEE NOTE 4)		HOLE CIRCLE DIAMETER (SEE NOTE 4)		GO GAGE SIZE		NO-GO GAGE SIZE	
			MEASURED	DESIGN	MEASURED	DESIGN	SAT	UNSAT	SAT	UNSAT
FWD #1										
FWD #2										
AFT #1										
AFT #2										
DESIGN			TOLERANCE		TOLERANCE					
TOLERANCE										

SIDE EYEBOLT HOLES

HOLE (SEE NOTE 2)	ATTRIBUTE									
	HOLE DEPTH	THREAD DEPTH	DEGREES FROM SMALL KEYWAY (SEE NOTE 4)		DISTANCE FROM HUB FACE (SEE NOTE 4)		GO GAGE SIZE		NO-GO GAGE SIZE	
			MEASURED	DESIGN	MEASURED	DESIGN	SAT	UNSAT	SAT	UNSAT
SIDE #1										
SIDE #2										
DESIGN			TOLERANCE		TOLERANCE					
TOLERANCE										

PREPARED BY:_____ DATE:_____

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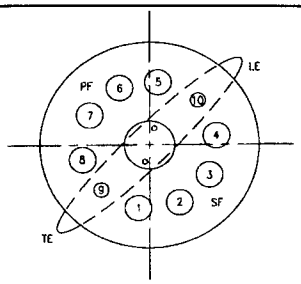
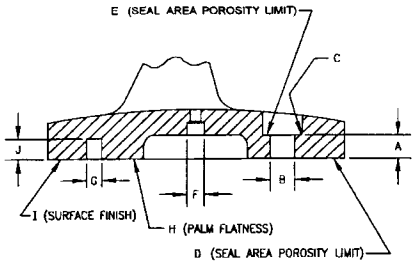
PROPELLER SERIAL NO.:_____ PAGE _____ OF _____

CPP BLADE PALM ATTRIBUTE MEASUREMENT





NOTES:

1. CPP BLADE PALM ATTRIBUTES SHALL BE MEASURED AND RECORDED TO 0.001 INCH RESOLUTION, EXCEPT AS SPECIFIED IN NOTE 2.
2. DOWEL PIN HOLES SHALL BE INSPECTED TO 0.0001 INCH RESOLUTION AT TWO PLACES, 90 DEGREES APART, AT: a. 3/4" BELOW TOP OF HOLE; b. 1/4" ABOVE BOTTOM OF HOLE; AND c. MIDWAY BETWEEN a. & b.

HOLE #	ATTRIBUTE			
	A	B	C	E
				SAT / UNSAT
1				
2				
3				
4				
5				
6				
7				
8				
DESIGN				
TOLERANCE				

HOLE	ATTRIBUTE			MEASURED	DESIGN	DEVIATION (MEAS-DES)	TOLERANCE
9	G (SEE NOTE 2)	a	1				
			2				
		b	1				
			2				
		c	1				
			2				
	J						
10	G (SEE NOTE 2)	a	1				
			2				
		b	1				
			2				
		c	1				
			2				
	J						

ATTRIBUTE	MEASURED	DESIGN	TOLERANCE
F			
H			
I			
ATTRIBUTE	SAT	UNSAT	
D			

PREPARED BY:_____ DATE:_____

CHECKED BY:_____ BLADE NO.:_____

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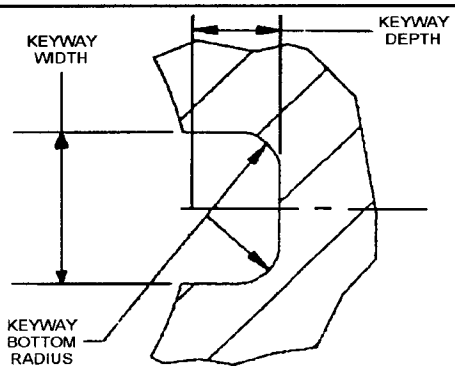
KEYWAY DIMENSIONS AND LOCATION MEASUREMENT



NOTES:

1. KEYWAY WIDTH AND DEPTH SHALL BE MEASURED AND RECORDED TO 0.001 INCH RESOLUTION. KEYWAY LOCATION SHALL BE MEASURED AND RECORDED TO 1 MINUTE RESOLUTION.
2. RECORD MEASUREMENTS AT EIGHT EQUALLY SPACED LOCATIONS STARTING AT THE FORWARD END OF THE PROPELLER TAPER AND FINISHING AT THE AFT END OF THE PROPELLER TAPER. IDENTIFY THE POSITION OF THE MEASUREMENT BY RECORDING THE DISTANCE FROM THE FORWARD END OF THE TAPER IN INCHES PARALLEL TO THE PCL.
3. WHEN MEASURING THE KEYWAY LOCATION, MEASURE THE ANGLE FROM THE BLADE CENTER LINE OF BLADE #1 TO THE KEYWAY CENTERLINE.

POSITION (SEE NOTE 2)	ATTRIBUTE							
	LARGE KEYWAY				SMALL KEYWAY			
	WIDTH	DEPTH	BOTTOM RADIUS	DEGREES TO BLADE 1 BCA	WIDTH	DEPTH	BOTTOM RADIUS	DEGREES TO BLADE 1 BCA
FWD END								
AFT END								
DESIGN								
TOLERANCE								

PREPARED BY:_____ DATE:_____

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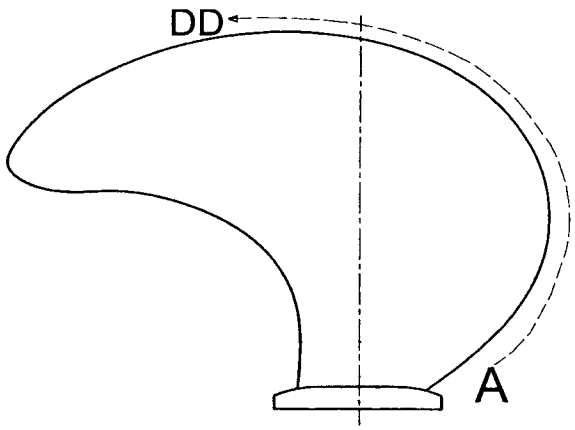
PRAIRIE AIR COVER PLATE THICKNESS MEASUREMENT



NOTES:
1. PRAIRIE AIR CHANNEL COVER PLATE THICKNESS SHALL BE MEASURED AND RECORDED TO 0.001 INCH RESOLUTION.
2. STATIONS SHALL BE LAID OUT AT 6 INCH INTERVALS ALONG THE LENGTH OF THE COVER PLATE. START WITH THE "A" STATION AT THE BEGINNING OF THE COVER PLATE TOWARD THE PALM.

PRAIRIE AIR COVER PLATE THICKNESS

STATION (SEE NOTE 2)	MEASURED	DESIGN	DEVIATION (MEAS - DES)	TOLERANCE	STATION (SEE NOTE 2)	MEASURED	DESIGN	DEVIATION (MEAS - DES)	TOLERANCE
A					P				
B					Q				
C					R				
D					S				
E					T				
F					U				
G					V				
H					W				
I					X				
J					Y				
K					Z				
L					AA				
M					BB				
N					CC				
0					DD				

PREPARED BY:_____ DATE:_____

CHECKED BY:_____ BLADE NO.:_____

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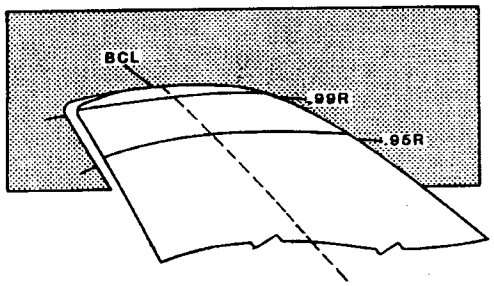
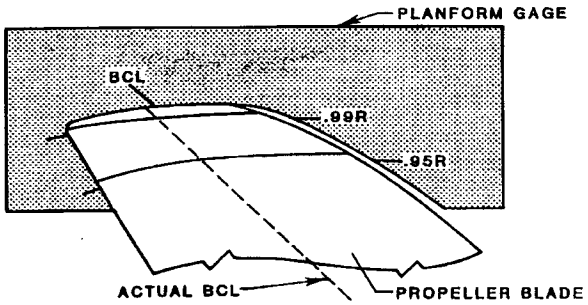
TIP PROFILE CONTOUR MEASUREMENT



DETERMINATION OF LEADING EDGE CONTOUR AT THE "TIP"



DETERMINATION OF TRAILING EDGE CONTOUR AT THE "TIP"

NOTES:

1. INDICATE LOCATION OF GAGE CONTACT POINTS AT EACH CYLINDRICAL SECTION WITH AN *.
2. CLEARANCES SHALL BE MEASURED AND RECORDED TO 0.001 INCH RESOLUTION.
3. CLEARANCE TOLERANCE IS _____.

TIP PROFILE GAGE CLEARANCE

BLADE #	GAGE POSITION								
	LEADING EDGE				CENTERED	TRAILING EDGE			
	.95R	BCL	MAX	MAX LOC (% RADIUS)	BCL	.95R	BCL	MAX	MAX LOC (% RADIUS)
1									
2									
3									
4									
5									
6									
7									

PREPARED BY:_____ DATE:_____

CHECKED BY:_____

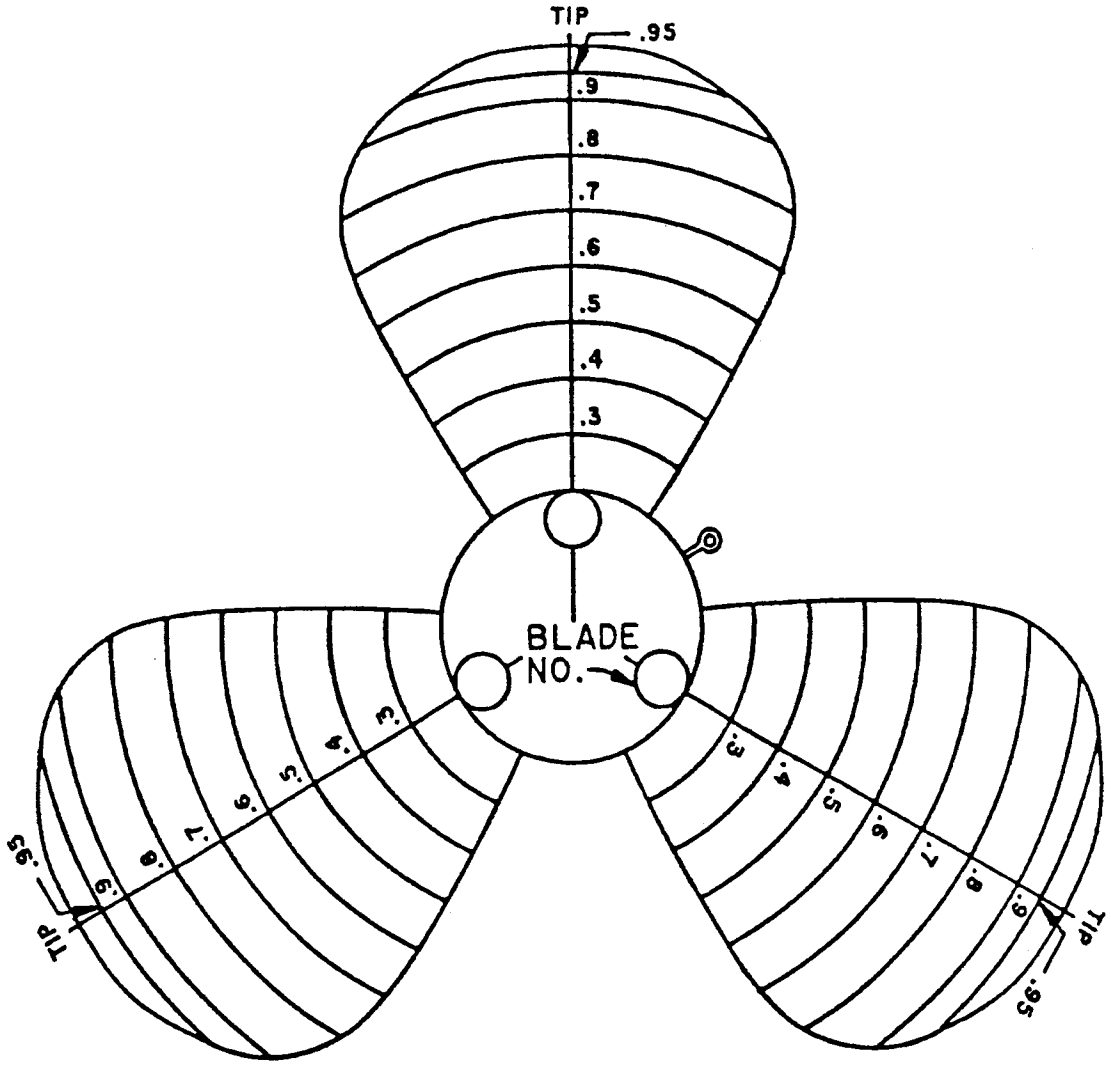
PROPELLER SERIAL NO.:_____ PAGE ____ OF ____

ITEM	YES	NO	NA	REMARKS
1. Is the pitchometer calibration current? Record the expiration date in the remarks.				
2. Have the blade gages been visually inspected and are the results documented?				
3. Has the plug gage been visually inspected and are the results documented?				
4. Has the visual technical inspection been accomplished and is the report attached?				
5. Are the size and location of all welds shown on the attached sketches?				
6. Has the fairness of the blade surfaces and blade outline been inspected with a fairing rod?				
7. Are out-of-tolerance fairing rod clearances shown on the attached sketches?				
8. Does the hub maintain 10 psi for 10 minutes with no drop in pneumatic pressure?				
9. Have the accessories been inspected to ensure conformance to the drawing?				
10. Have the accessories been installed on the propeller to ensure proper fit?				
11. Are the lifting eyebolts acceptable and are the eyebolt certification documents attached?				
12. Have the other propeller attributes (as applicable) been inspected and are the results attached?				
13. PRAIRIE Air System				
a. Did the flow test verify proper operation of the PRAIRIE air system?				
b. Is the location of blocked, restricted, or misaligned holes shown on the attached sketches?				
c. Have new or repaired cover plate welds been ultrasonically inspected (UT) and are the results attached?				
Comments:				

PREPARED BY:_____ DATE:_____

CHECKED BY:_____

PROPELLER SERIAL NO.:_____ PAGE _____ OF _____



☐ PRESSURE FACE ☐ SUCTION FACE

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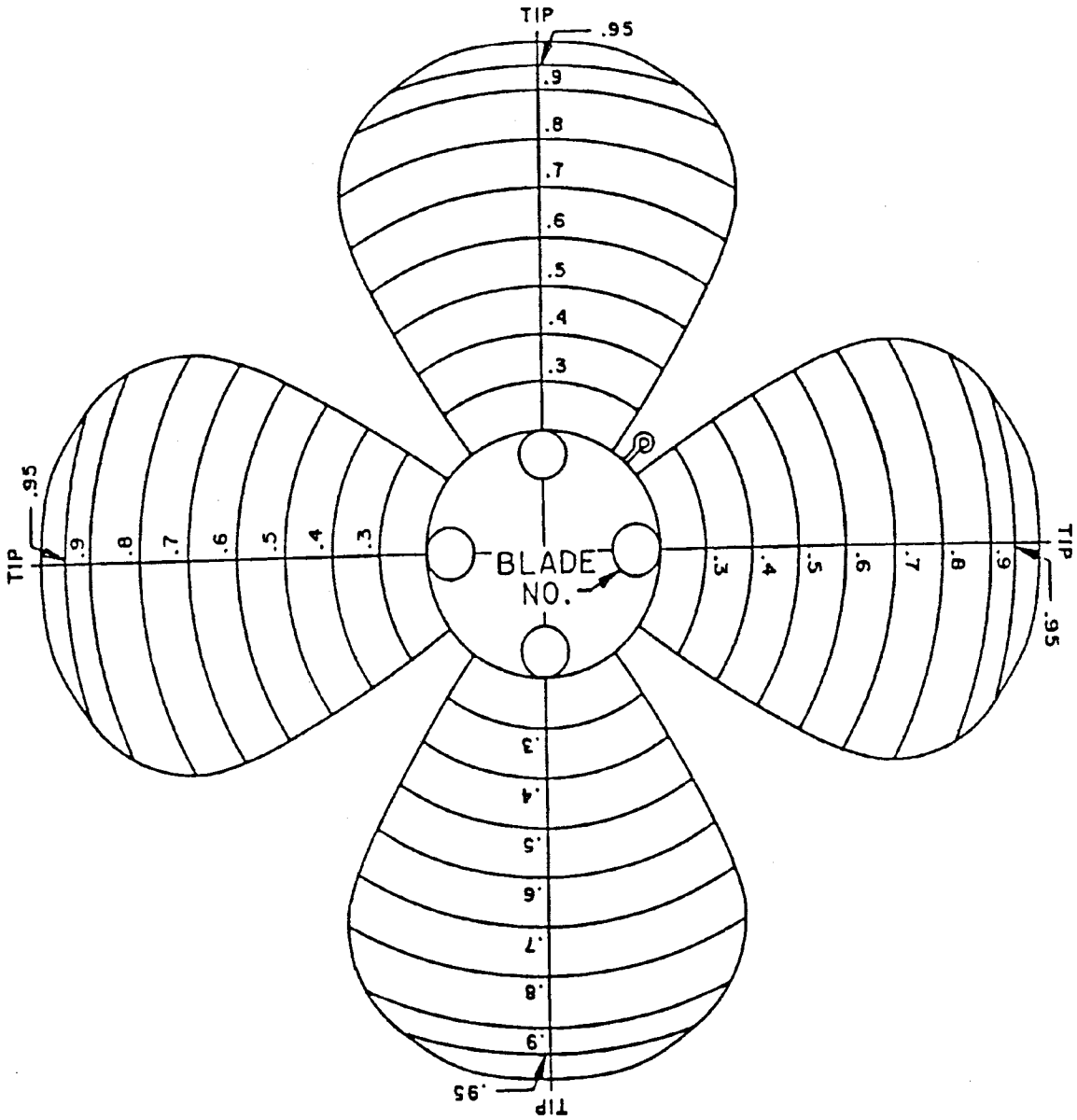

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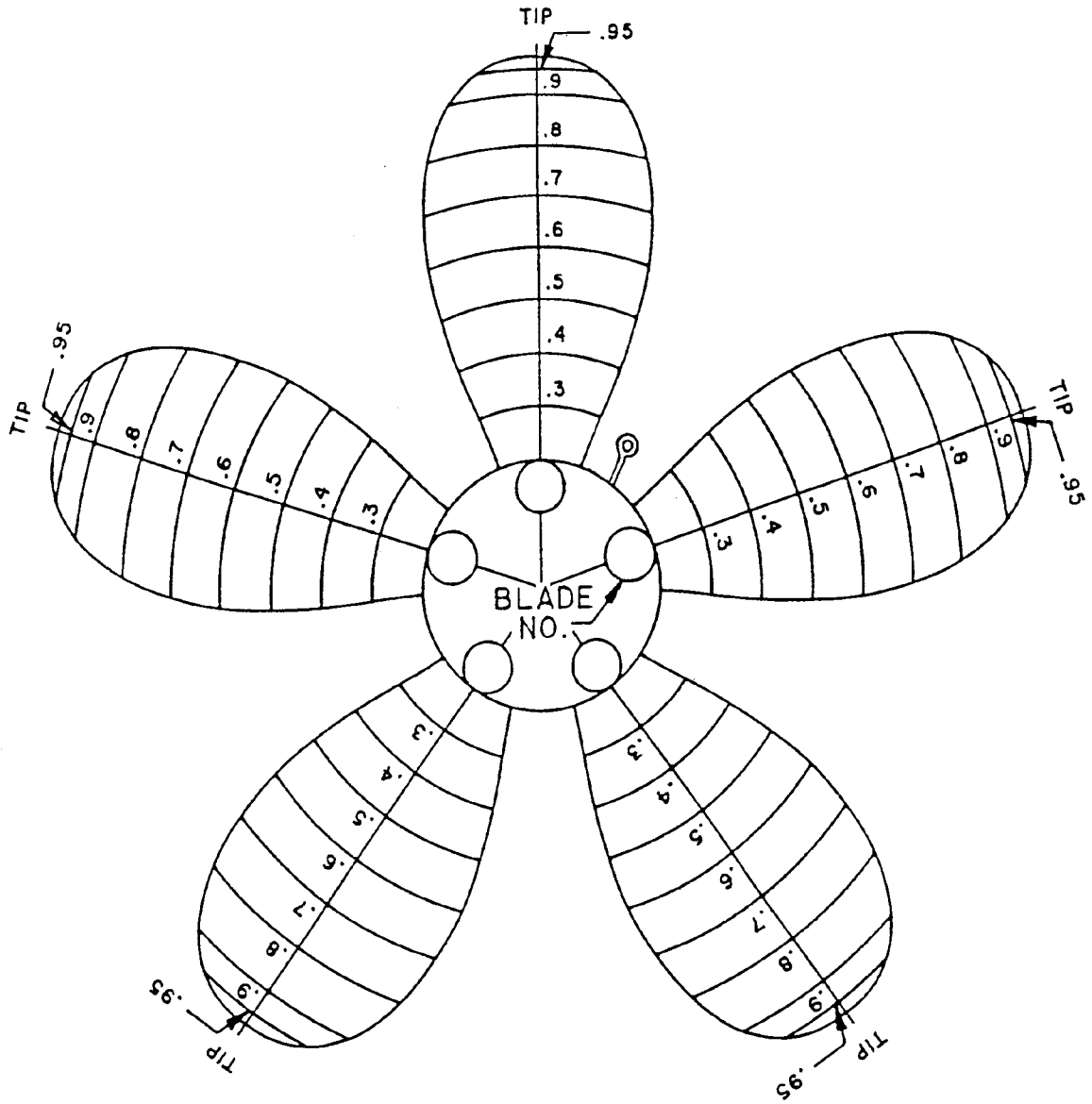

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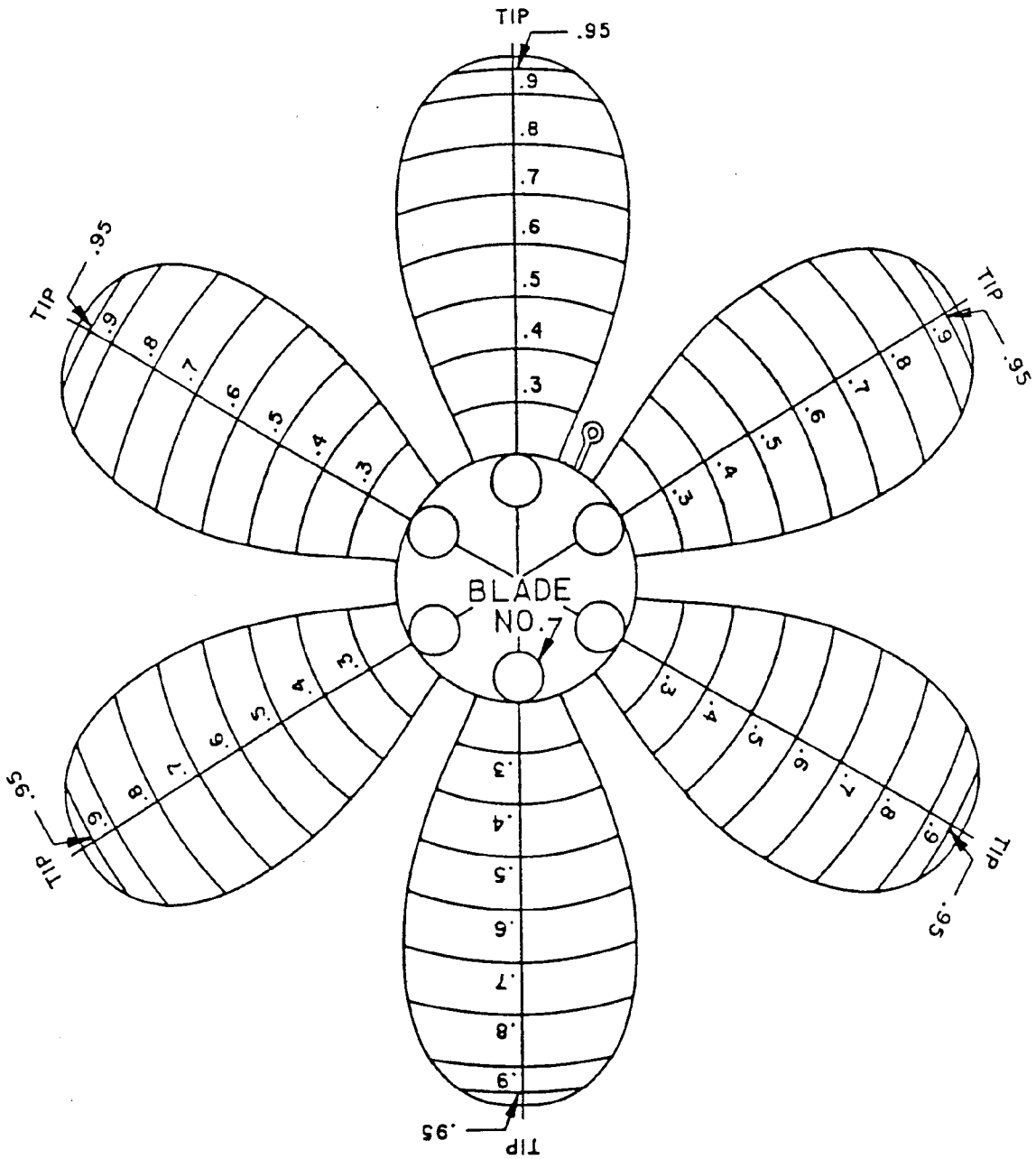

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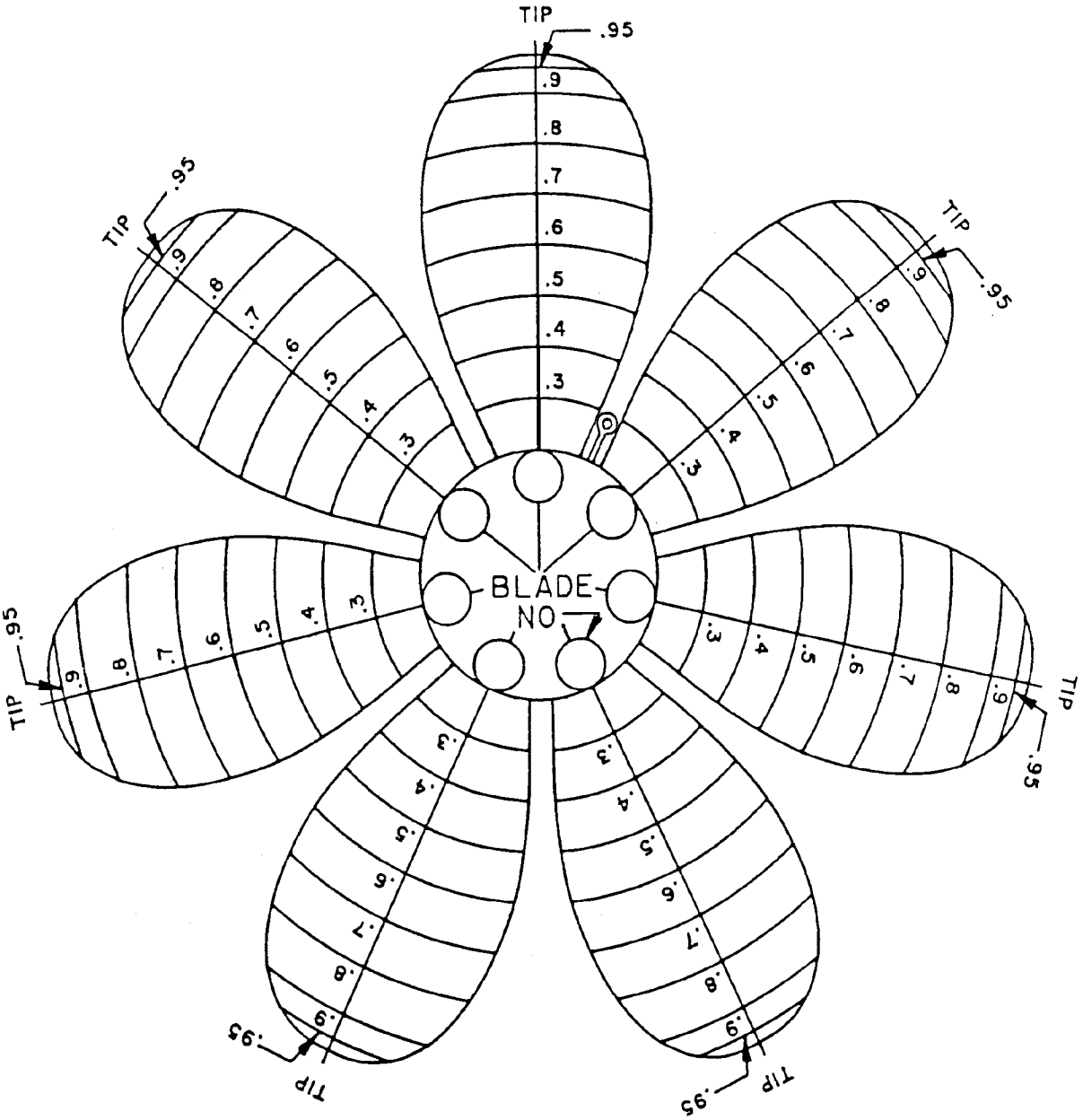

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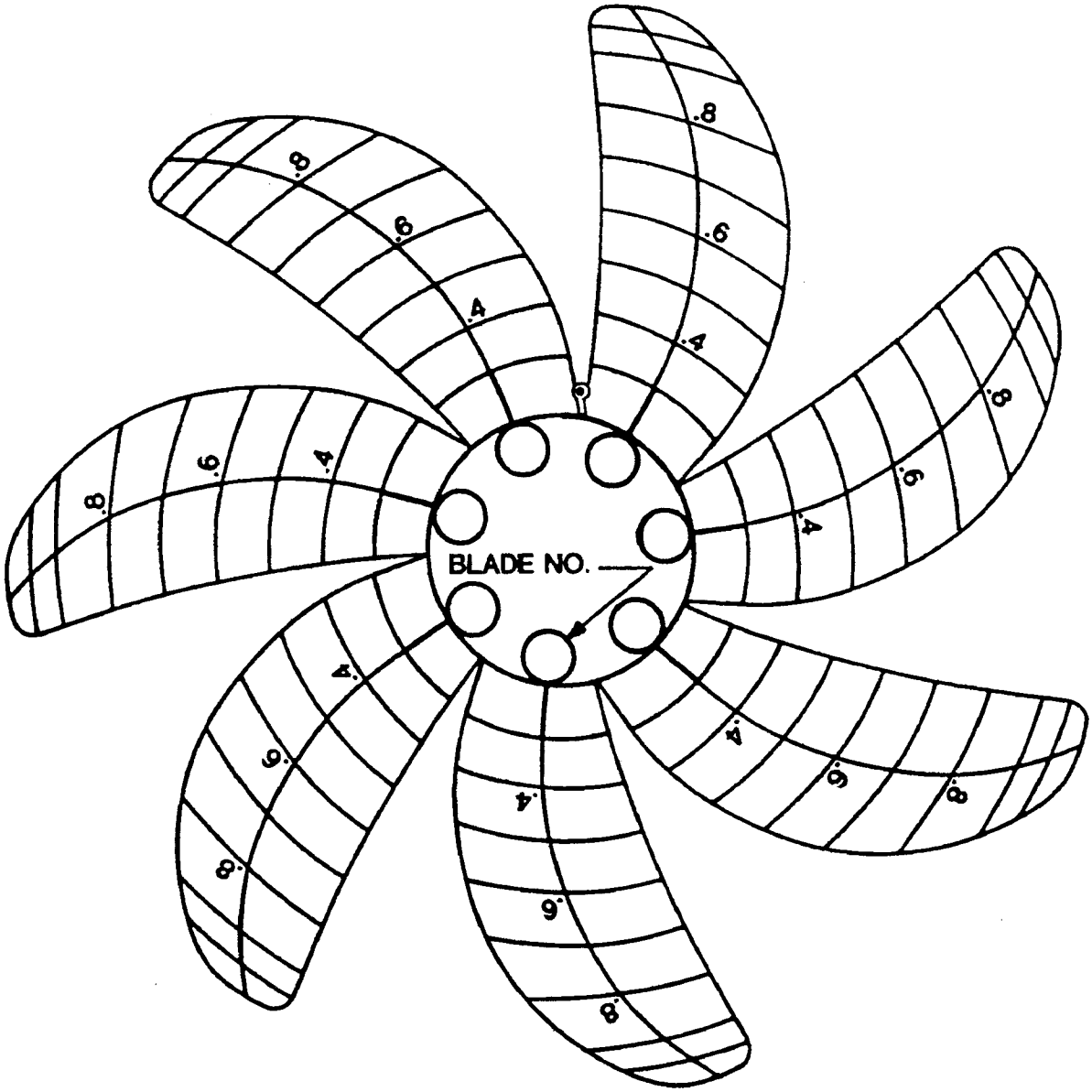

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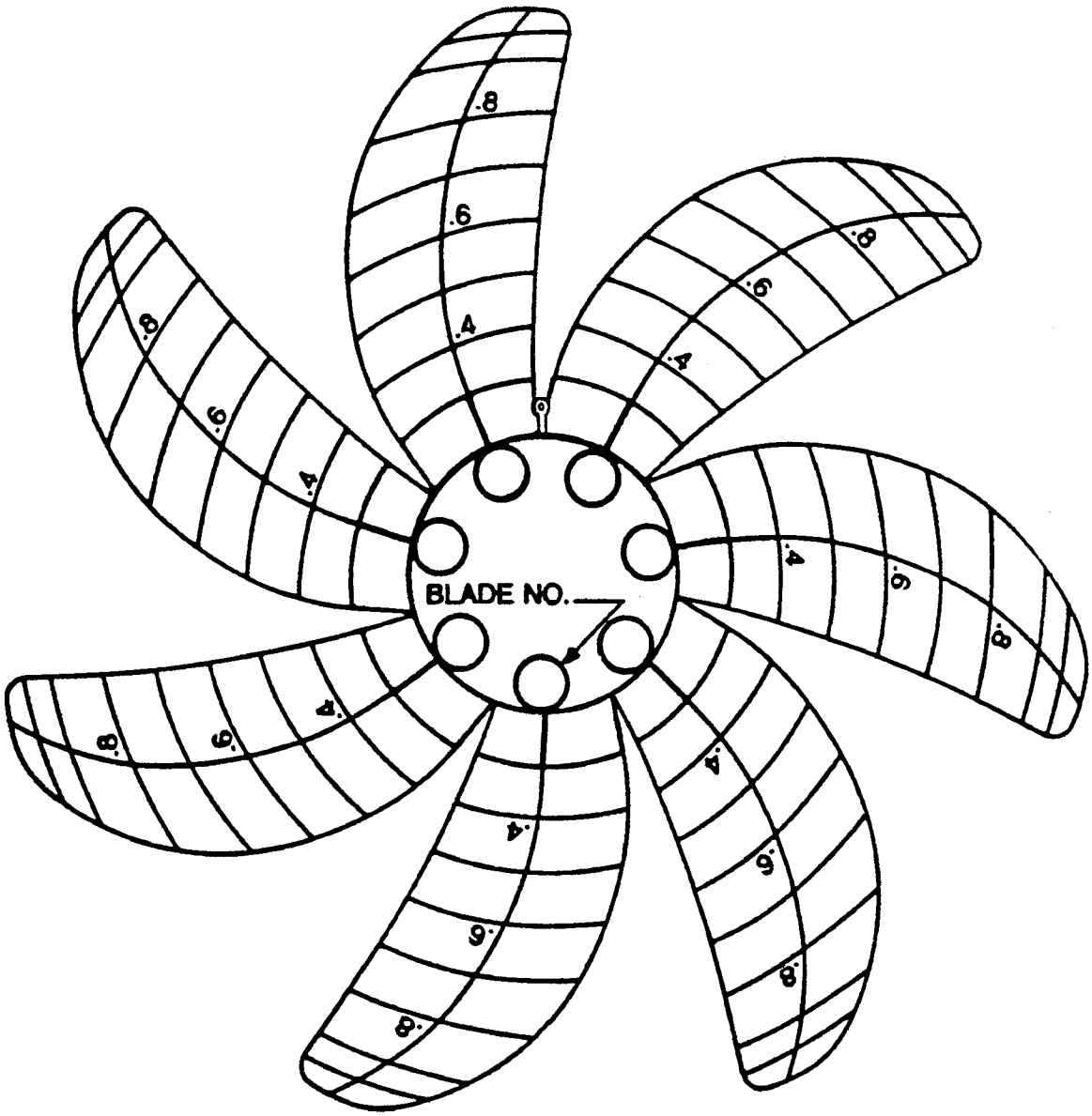

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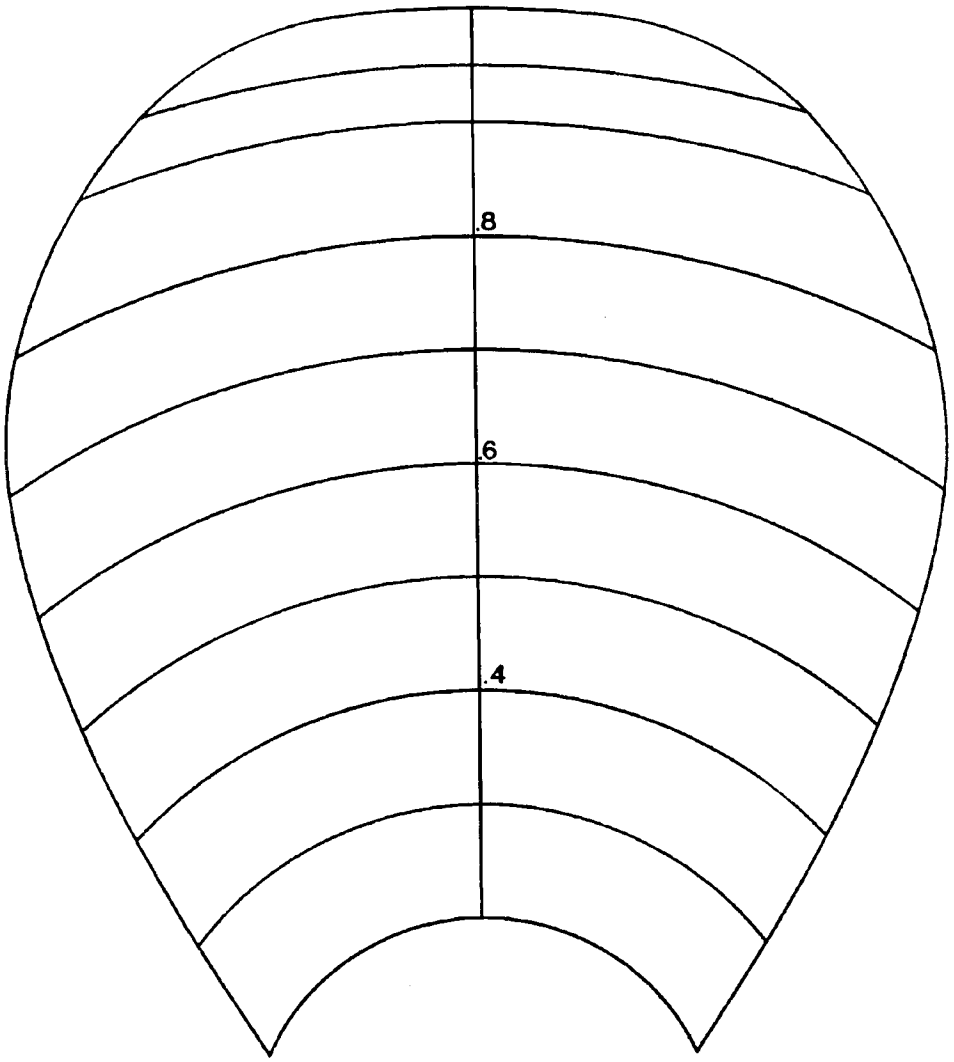

_____ E _____ E

BLADE NO. _____

☐ PRESSURE FACE ☐ SUCTION FACE

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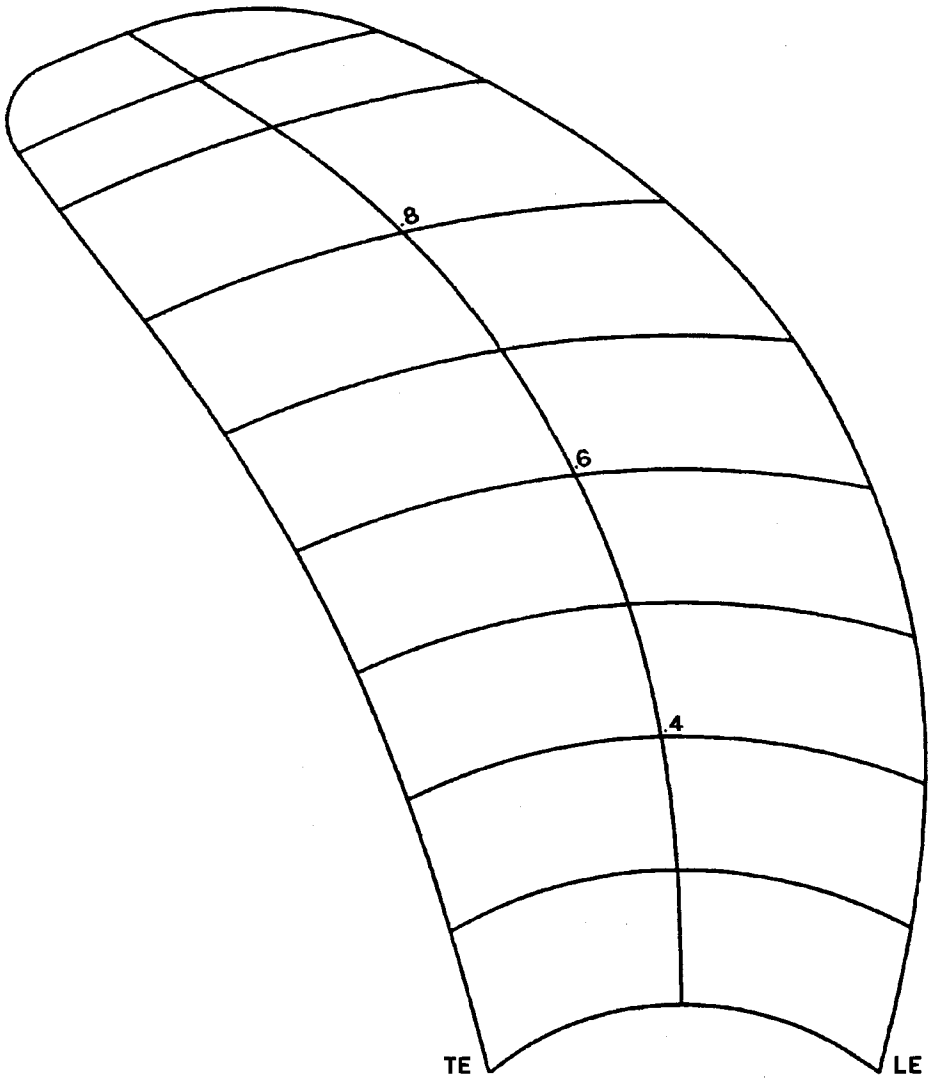

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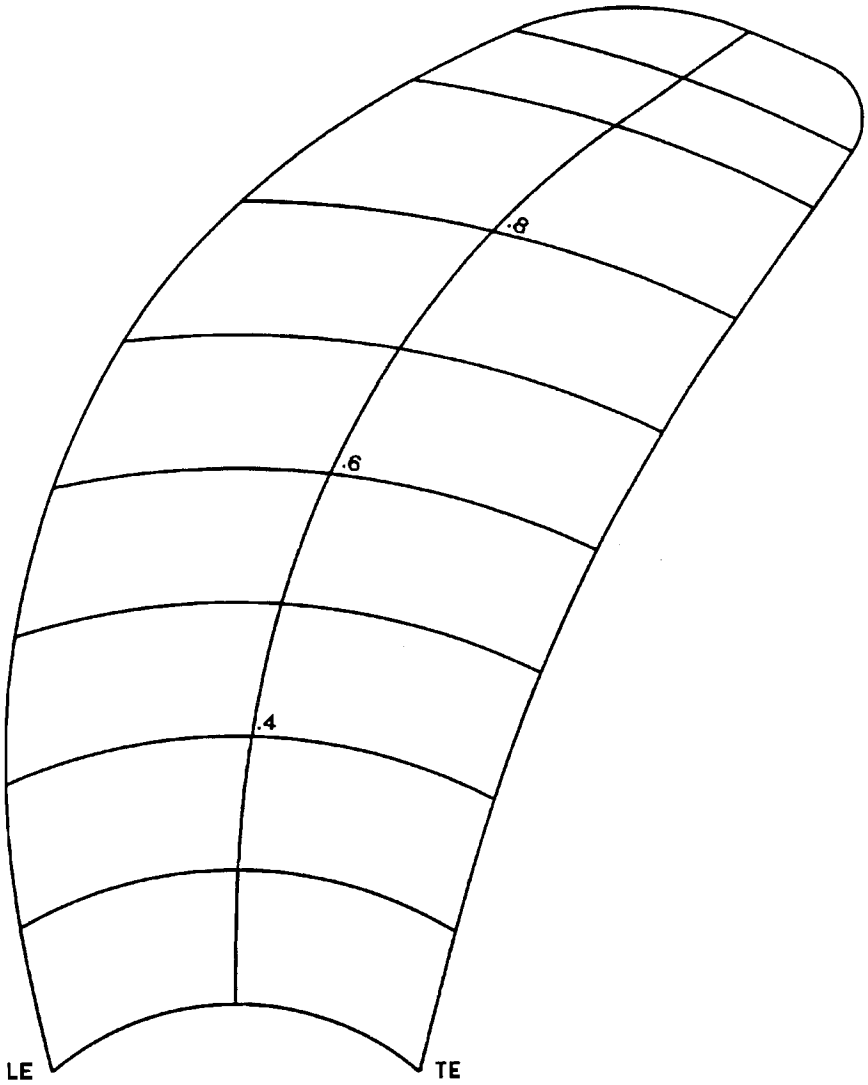

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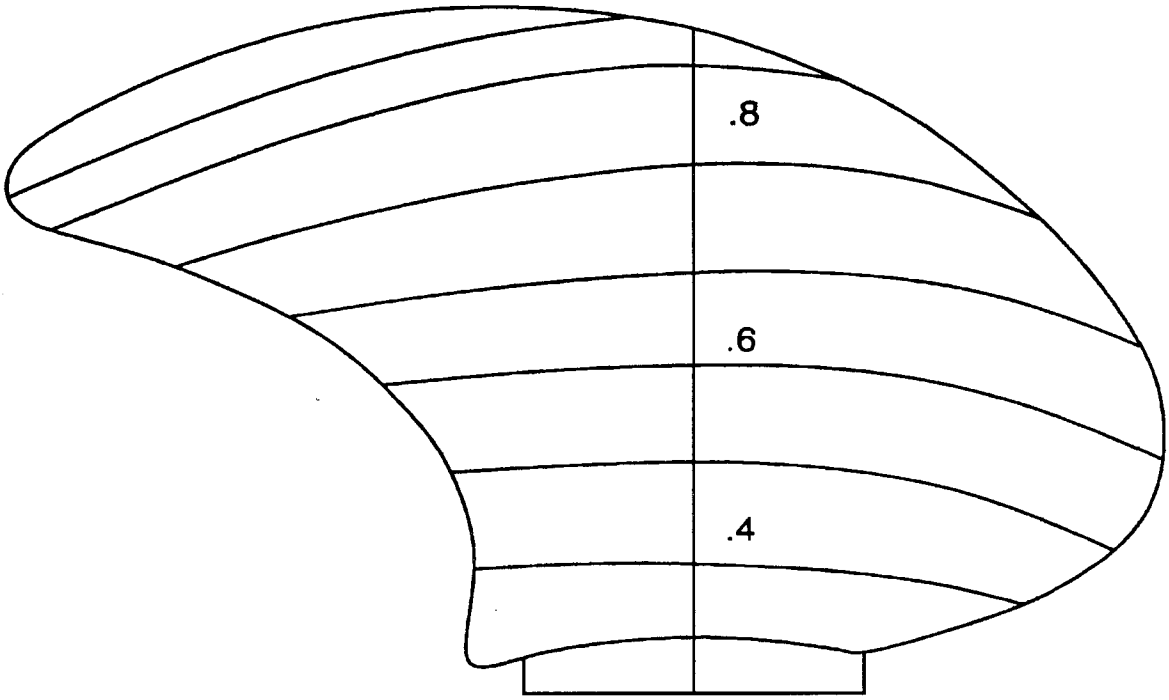
☐ PRESSURE FACE ☐ SUCTION FACE

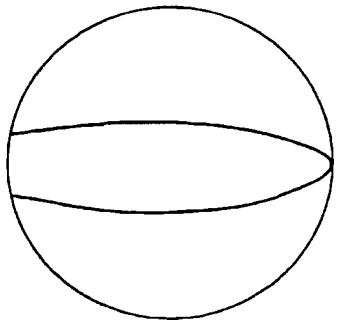
PROPELLER SERIAL NO.:_____ PAGE _____ OF _____

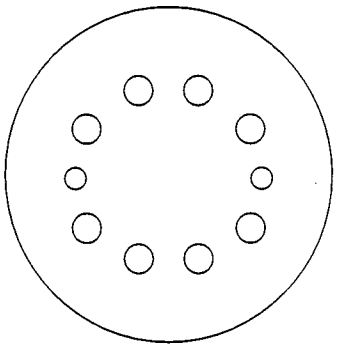


BLADE NO. _____

HEAT NO. _____

☐ LEFT HAND
☐ RIGHT HAND
☐ SUCTION FACE
☐ PRESSURE FACE





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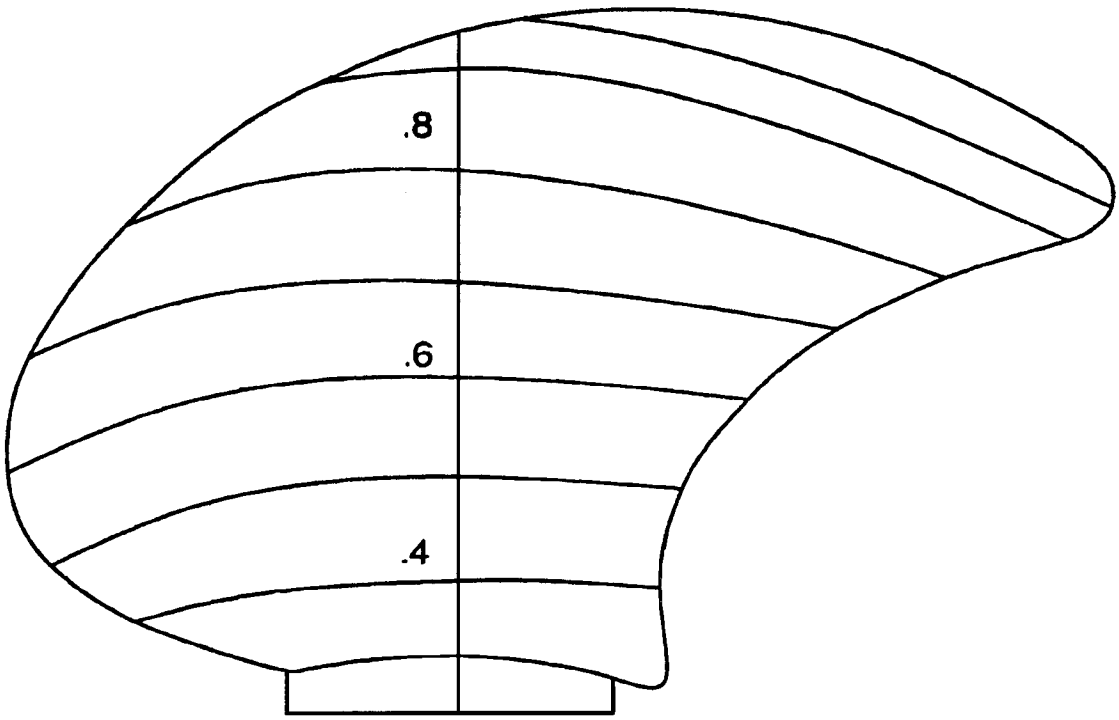

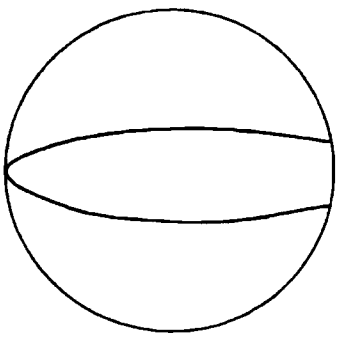

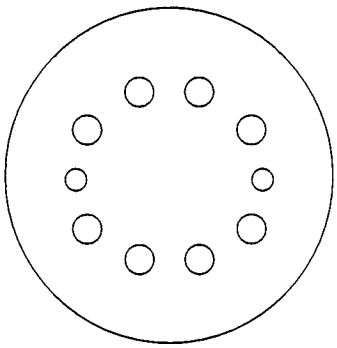

BLADE NO. _____

HEAT NO. _____

- ☐ LEFT HAND
- ☐ RIGHT HAND
- ☐ SUCTION FACE
- ☐ PRESSURE FACE

PROPELLER SERIAL NO.:_____ PAGE _____ OF _____